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Australian/New Zealand Standard™

Photovoltaic (PV) modules — Ammonia corrosion testing



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Preface

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-042, Renewable Energy Power Supply Systems and Equipment.

The objective of this document is to describe test sequences useful to determine the resistance of PV modules to ammonia (NH₃). All tests included in the sequences, except the bypass diode functionality test, are fully described in AS/NZS 61215, IEC 61646, and IEC 61730-2. They are combined in this document to provide means to evaluate possible faults caused in PV modules when operating under wet atmospheres having high concentration of dissolved ammonia (NH₃).

This document applies to Photovoltaic (PV) modules. These are electrical devices intended for continuous outdoor exposure during their lifetime. Highly corrosive wet atmospheres, such as in the environment of stables of agricultural companies, could eventually degrade some of the PV module components (corrosion of metallic parts, deterioration of the properties of some non-metallic materials – such as protective coatings and plastics – by assimilation of ammonia) causing permanent damages that could impair their functioning and safe operation.

This document applies to flat plate PV modules. The structure of this document follows closely IEC 61701.

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